

Administrator's Remarks  
Launch of STS-109  
February 28, 2002

I am delighted to welcome you to the launch of STS-109, the fourth Hubble Space Telescope servicing mission.

I am particularly excited to be here for several reasons. It's a very special day for my family and me. This is my first launch as NASA Administrator.

My daughter, Lindsey, has made this occasion even more special for me by singing the national anthem. I am so proud of her. Thank you, Lindsey, for doing this for me and for our guests.

It's a very special day in our family for another reason too. My son Kevin just celebrated his 11th birthday yesterday. What a fantastic way to turn 11—to be here and get a close-up view of one of this country's greatest achievements, our first Space Shuttle... Columbia.

This event is truly awe-inspiring, not for just me and my family, but for all of us, to have a close-up look at this launch team.

The Space Shuttle is the most complex machine ever made. It has more than two and a half million parts, including almost 230 miles of wire, more than 1,060 plumbing valves and connections, over 1,440 circuit breakers, and more than 27,000 insulating tiles and thermal blankets.

And yet this team here at the Kennedy Space Center makes the liftoff look easy.

There are hundreds—no, thousands—of people involved in the launch. I have never seen as dedicated a team as this. From the program managers to the people who actually turn the wrenches, fix the meals, and train the crews, they all work as if they themselves were flying on the mission.

In many ways this is like a family. Every shuttle launches with the crew that we can see, but also with the spirit and the hearts of everyone on this team. The pride exhibited by our civil service and contract personnel is amazing.

Mission success requires the close coordination of many, many individuals, but also collaboration among several institutions, including the Kennedy Space Center, Johnson Space Center, NASA Headquarters, the European Space Agency and industry. Industrial and educational partners from across the nation and around the globe are essential to Hubble's science and engineering advances. The team's common vision is why Hubble remains one of the "crown jewels" of NASA.

The seven astronauts on this mission are the most public members of the team. They are a unique group with quite varied backgrounds. The diverse and distinguished crew of STS-109 includes an astrophysicist, a veterinarian, a mechanical engineer, a molecular physicist, a Navy fighter pilot, an Air Force test pilot, and a Master Army Aviator. Five of the seven hold doctorates.

Two-time shuttle veteran Scott Altman will command the mission. With him on the flight deck are pilot Duane Carey—making his first space flight—and flight engineer and robotic arm operator Nancy Currie. She has three previous missions to her credit.

Payload Commander John Grunsfeld is no stranger to Hubble. This high-energy astrophysicist is a veteran of three flights, including the 1999 Hubble servicing mission, when he performed two space walks. Now he will lead the space walking team, which includes veteran astronauts Jim Newman and Rick Linnehan, and first-time flyer Mike Massimino. The four will space walk in alternating pairs.

I am delighted that this particular mission is my first as Administrator because it focuses our attention on the precision and engineering underlying shuttle missions and the space science of the Hubble Space Telescope.

On this mission, the space shuttle will do exactly what it was designed to do. There is no other vehicle like the space shuttle. Rockets can take payloads to orbit, but none can retrieve them, deploy a crew to make modifications and return them to orbit or bring them home, if necessary.

The orbiter on this mission is Columbia, the first space shuttle. She first flew into space in 1981, years before Kevin was even a gleam in his father's eye. Construction actually started in 1975. She is going back into space after year-long period of refurbishment that has made her more robust, safer and more efficient than ever before.

Columbia's new cockpit replaced mechanical instruments with 11 full-color, flat-panel displays. The new "glass cockpit" is lighter, uses less electricity and sets the stage for the next generation of improvements—a "smart cockpit" under development that will make the cabin even more user-friendly.

Technicians also performed comprehensive inspections of the her more than 200 miles of electrical wiring, installing protection to prevent future damage in high-traffic areas. Intensive structural inspection of Columbia also was performed and 133 modifications and upgrades were made.

Over the course of the next few years most of the Space Shuttle's missions will be dedicated to the assembly and operations of the International Space Station. This mission, however, shows that the Shuttle is capable of much more.

As you know, the findings made with the Hubble Space Telescope have rewritten the textbooks. The telescope allows scientist to look farther back in time than ever before and the images themselves are spectacular.

During this 11-day mission the crew will take five walks in space. They will add the Advanced Camera for Surveys to Hubble's complement of already superb scientific instruments, enhancing the telescope's imaging capability by a factor of 10. They will replace the Power Control Unit, which controls and distributes electricity from the solar arrays and batteries to other parts of the telescope.

And the power arrays themselves will be replaced with a new set of rigid solar arrays. With only two-thirds the solar cell area of the flexible first two pairs, they will produce 20 percent more power.

One of four reaction wheel assemblies--part of Hubble 's pointing control system--will be replaced. Spin momentum in the reaction wheels moves the telescope into the position directed by the researchers and keeps it there until it receives a new command.

You are going to hear more detail about the mission now and about what to expect as you watch the liftoff.

I am delighted to be sharing this experience with my family and with you today. I had a lump in my throat when Lindsey was singing. I expect that more than a few of us will feel a lump of pride and awe in our throats as the engines start, the solid rocket boosters are ignited, and the STS-109 clears the tower.

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